

CLAIMS

[1] A metal halide lamp comprising:

an outer tube;

an inner tube that is provided in the outer tube, has a sealing portion
5 in at least one end portion, and is made of quartz glass; and

an arc tube provided in the inner tube,

wherein a longitudinal central axis of the outer tube, a longitudinal
central axis of the inner tube, and a longitudinal central axis of the arc tube
are substantially coaxial, and

10 assuming that the outer tube has a maximum outer diameter A (mm),
the inner tube has a maximum outer diameter B (mm), and the metal halide
lamp consumes P (W) of power, the following relationships are satisfied:

$$0.06P + 15.8 \leq A \leq 25,$$

$$0.05P + 9.0 \leq B, \text{ and}$$

15 $1.14 \leq A/B,$

where P satisfies $20 \leq P \leq 130$.

[2] The metal halide lamp according to claim 1, wherein assuming that
the arc tube has a maximum outer diameter C (mm), the following
relationship is satisfied: $0.05P + 2.2 \leq C \leq 0.07P + 5.8$.

20 [3] The metal halide lamp according to claim 1, wherein the inner tube is
filled with nitrogen gas with a nitrogen gas pressure of 20 kPa or more when
a temperature in the inner tube is 25°C.

[4] A lighting apparatus comprising:

a bottom-surface-open-type lighting unit; and

25 the metal halide lamp according to claim 1 that is mounted in the
lighting unit.